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Docket No.: US010394
Customer No. 000022878

REMARKS

By this amendment, claims 2, 10 and 13-15 are canceled. Claims 1, 6, 11 and 18 are amended. Claims 1, 3-9, 11, 12 and 18-22 remain. This application has been carefully considered in connection with the Examiner's Action. Reconsideration, withdrawal of the Final Action, and allowance of the application, as amended, are respectfully requested.

Rejection[s] under 35 U.S.C. § 103

Claim 1

Claim 1 recites an acoustic imaging system, comprising: a transducer including a two-dimensional transducer element matrix array encased by a protective cover and a transducer body, the protective cover configured to mate with a protective cover mounting portion of the transducer body, the protective cover for being superposed above the two-dimensional transducer element matrix such that acoustic energy incident at the protective cover from the two-dimensional transducer element matrix is mechanically directed by the protective cover, wherein the protective cover further comprises an acoustic material for exhibiting an acoustic impedance corresponding to an acoustic impedance of a body to be imaged; and an image processing system coupled to the transducer and configured to provide a plurality of individualized excitation signals each being delayed by a predetermined delay with respect to each other to control respective transducer elements of the plurality of transducer elements at different times for controlling the transmit aperture of the acoustic imaging system over time such that the two-dimensional transducer element matrix array generates and transmits acoustic energy through the protective cover over time such that acoustic energy transmitted through the protective cover is electronically focused, wherein the image processing system electronically focuses transmitted acoustic energy at a target

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by electronically compensating for the focusing characteristics of the protective cover as a function of non-uniform acoustic delays caused by the protective cover.

Claim 18

Claim 18 recites A method for acoustically imaging a patient, comprising the steps of: providing a transducer having a two-dimensional transducer element matrix array encased by a protective cover and a transducer body, the protective cover configured to mate with a protective cover mounting portion of the transducer body, the protective cover for being superposed above the two-dimensional transducer element matrix such that acoustic energy transmitted from the protective cover and into the body is mechanically directed by the protective cover, wherein the two-dimensional transducer element matrix array and the protective cover are shaped to reduce patient discomfort, further wherein the protective cover further comprises an acoustic material for exhibiting an acoustic impedance corresponding to an acoustic impedance of a body to be imaged; generating a plurality of time delayed transmit signals each for separately controlling a respective transducer element of the two-dimensional transducer element matrix array to electronically focus acoustic transmit waves that traverse through the protective cover; and receiving a plurality of time delayed response echoes at the separately controllable individual transducer elements of the two-dimensional transducer element matrix array to electronically focus acoustic receive echoes that traverse the protective cover, wherein the image processing system electronically focuses transmitted acoustic energy at a target by electronically compensating for the focusing characteristics of the protective cover as a function of non-uniform acoustic delays caused by the protective cover.

Claims 1, 2, 4-15 and 18-22 were rejected under 35 U.S.C. § 103 as being unpatentable over *Shimazaki or Kobayashi*. With respect to claims 2, 10 and 13-15, the same have been canceled herein, thus rendering the rejection thereof moot. With

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respect to claim 1, applicant traverses this rejection on the grounds that these references are defective in establishing a prima facie case of obviousness.

As the PTO recognizes in MPEP § 2142:

... The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness...

It is submitted that, in the present case, the examiner has not factually supported a prima facie case of obviousness for the following, mutually exclusive, reasons.

1. Even When Combined, The References Do Not Teach the Claimed Subject Matter

The *Shimazaki* and *Kobayashi* references cannot be applied to reject claim 1 under 35 U.S.C. § 103 which provides that:

A patent may not be obtained ... If the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains ... (Emphasis added)

Thus, when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. However, since the *Shimazaki* and *Kobayashi* references neither teach nor suggest a transducer including a two-dimensional transducer element matrix array encased by a protective cover and a transducer body, the protective cover configured to mate with a protective cover mounting portion of the transducer body, the protective cover for being superposed above the two-dimensional transducer element matrix such that acoustic energy incident at the protective cover from the two-dimensional transducer element matrix is mechanically directed by the protective cover,

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wherein the protective cover further comprises an acoustic material for exhibiting an acoustic impedance corresponding to an acoustic impedance of a body to be imaged and wherein the image processing system electronically focuses transmitted acoustic energy at a target by electronically compensating for the focusing characteristics of the protective cover as a function of non-uniform acoustic delays caused by the protective cover as is claimed in claim 1, it is impossible to render the subject matter of claim 1 as a whole obvious, and the explicit terms of the statute cannot be met.

Accordingly, for this mutually exclusive reason, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

2. The Combination is Improper

Assuming, arguendo, that the above argument for non-obviousness does not apply (which is clearly not the case based on the above), there is still another, mutually exclusive, and compelling reason why the *Shimazaki* and *Kobayashi* references cannot be applied to reject claim 1 under 35 U.S.C. § 103.

§ 2142 of the MPEP also provides:

...the examiner must step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made.....The examiner must put aside knowledge of the applicant's disclosure, refrain from using hindsight, and consider the subject matter claimed 'as a whole'.

Here, the *Shimazaki* and *Kobayashi* references do not teach, or even suggest, the desirability of the combination since neither reference teaches the specific arrangement of a transducer including a two-dimensional transducer element matrix array encased by a protective cover and a transducer body, the protective cover

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configured to mate with a protective cover mounting portion of the transducer body, the protective cover for being superposed above the two-dimensional transducer element matrix such that acoustic energy incident at the protective cover from the two-dimensional transducer element matrix is mechanically directed by the protective cover, wherein the protective cover further comprises an acoustic material for exhibiting an acoustic impedance corresponding to an acoustic impedance of a body to be imaged and wherein the image processing system electronically focuses transmitted acoustic energy at a target by electronically compensating for the focusing characteristics of the protective cover as a function of non-uniform acoustic delays caused by the protective cover as specified above and as claimed in claim 1.

Thus, it is clear that the references do not provide any incentive or motivation supporting the desirability of the combination. Therefore, there is simply no basis in the art for combining the references to support a 35 U.S.C. § 103 rejection.

In this context, the MPEP further provides at § 2143.01:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

In the above context, the courts have repeatedly held that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination.

In the present case it is clear that the examiner's combination arises solely from hindsight based on the invention without any showing, suggestion, incentive or motivation in the references for the combination as applied to claim 1. Therefore, for this mutually exclusive reason, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C.

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§103 should be withdrawn.

Conclusion

It is clear from all of the foregoing that independent claim 1 is in condition for allowance. Dependent claims 3-9, 11 and 12 depend from and further limit independent claim 1 and therefore are allowable as well. For similar reasons as applied to claim 1, claim 18 is believed in condition for allowance. Dependent claims 19-22 depend from and further limit independent claim 18 and therefore are allowable as well.

The amendments herein are fully supported by the original specification and drawings, therefore, no new matter is introduced.

In view of the above, it is respectfully submitted that claims 1, 3-9, 11, 12 and 18-22 are in condition for allowance. Accordingly, withdrawal of the Final Action and an early Notice of Allowance is courteously solicited.

Respectfully submitted,

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